



**International University of Africa**  
**Deanship of Graduate Studies**



**Stability of Wafraclox and More Confirmation by  
Thermal Study**

**A Thesis Submitted in the Partial Fulfillment of the  
Requirements of the M.Sc Degree in Industrial Chemistry**

**By**

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# Acknowledgment

**For the ancestors who paved the path before me upon whose shoulders I stand.**

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**Dr.Salah Elnaiem Mohammed**

**For his unlimited support, grate full effort, guidance and continuous encouragement to present this research in form.**

**As well as our principal: wafrapharma laborotaries who gave me the golden opportunity to posses this project on the topic stability of Ampiclox .**

**Thanked everyone who contributed and helped in the production of this research as honorable and extend thanks to all of my evacuation may god preserve them.....**

# Dedication

**This thesis is dedicated to my father who taught me that the best kind of knowledge is the one learned for its own ask, it is also dedicated to my mother who taught me that great task can be accomplished, if it is done in one step at a time.**

**Mai**

## **Abstract**

This research reviews the studies on the stability of wafraclox suspension drug. Aimed to save patients and substantiate the claimed shelf-life.

Which is composed of Ampicillin and Cloxacillin. The studies focused on three samples of Wafraclox.

The first sample was placed in the refrigerator at 8°C, and second sample exposed to the temperature of the room at 25°C, and the third sample was placed in the oven at 40°C.

Then they were analyzed with registering the effectiveness rate weekly for 28 days.

A mechanical method for cloxacillin was 100 ml powder transferred to 100 ml volumetric flask and the volume was completed with water, 2 ml of each was diluted by 0.1M HCL, the absorbance was measured at 350 nm.

The concentration relation test was made also for Ampicillin because it is the other part of wafraclox drug content, that 144 mg/100 ml concentration, and the volume was completed with mobile phase to 100 ml, and then 20 ml are separately injected equal volume into the chromatograph, according to it the chromatogram was recorded.

Finally the result was registered, the percentage was calculated and the Stability was concluded.

The study recommends following the pharmaceutical prescripts of the drug from the shelf-time to storage condition.

## مستخلص البحث

يتناول هذا البحث دراسات الاستقرار لعقار وفرا كلوس بهدف سلامة المريض والتحقق من مدة الصلاحية المزعومة، وقد أجريت هذه الدراسات على ثلاثة عينات من العقار ، والذي يتكون من مكونين أساسيين هما الامبسلين والكلوكسيسلين .

وقد وضعت العينة الأولى في الثلاجة عند درجة حراره  $8^{\circ}\text{C}$  العينة الثانية عند درجة حراره الغرفة  $25^{\circ}\text{C}$  والعينة الثالثة في فرن حرارته  $40^{\circ}\text{C}$ .

وقد تم تحليلهن تحليلًا كيميائيًا وإيجاد نسبه الفعاليه اسبوعيا على مدى 28 يوما.

استخدمت طريقه اليه للتحليل للكلوكسيسلين حيث حضرت ثلاثه دوارق حجميه سعه 100 مل باستخدام وزنه من العينه وذوبت بالماء واكمل الحجم حتى العلامه ثم اخذت 2 مل منها ثم خففت بحامض الهيدروكلوريك تركيز 0.1 M ثم قيست الامتصاصيه لكل واحد منهن في مدى 350 نانوميتر .

كذلك اجريت الية التحليل للمكون الاخر للعقار وهو الامبسلين حيث حضرت ايضا ثلاث دوارق حجميه بتركيز 144 ملجرام\100مل ثم اكمل الحجم بالطور المتحرك الى 100 ملجرام ثم اخذت 20 مل ليتم بها عمليه الحقن المنفصل وذلك لاجراء التحليل الكروماتغرافي ورسمت علاقات التركيز معبرا عنها بالامتصاصات ضد درجات الحراره .

واخيرا سجلت النتائج وحسبت النسبه المئويه واستنتجت على ضوءها الاستقرار.

وتوصى الدراسة بالالتزام بالارشادات الدوائية للعقار من حيث مدة الصلاحية وظروف التخزين.

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## List of Abbreviations

DDQ	2,3-dichloro-5,6-dicyano-1,4 benzoquinone	17
LOD	The limit of detection	24
LOQ	The limit of quantification	24
AMO	Amoxacillin	28
CLO	Cloxacillin	28